

REMARKS

The Office action dated June 21, 2007, and the references cited have been fully considered. In response, please enter the enclosed amendments and consider the following remarks presented herein. Reconsideration and/or further prosecution of the application is respectfully requested.

Applicants appreciate the thoughtful examination of the application.

First, Applicants appreciate the Office withdrawing the previous § 101 rejections of the claims.

Next, Applicants apologize for the typographical error in the Remarks section of the previous Amendment F which inadvertently included the word "not" in phrase "these elements are not in different devices" on page 10, and Applicants appreciate the statement in the current Office action that "the recited claims do not require the distributor, storage elements and receiver to be in different devices," as the Office realizes the recited claim can be embodied in a single apparatus. Applicants apologize for any misunderstanding, and Applicants will attempt to be more clear to help further prosecution of this application.

For the record, Applicants are not trying to claim elements distributed across multiple computers and/or switching devices networked together, and Applicants disclaim any such reading of the application to cover such subject matter. Rather in the present application, Applicants are trying to cover a novel and non-obvious queue within a single apparatus, with such application as being used for receiving packets on a line card of a router. This queue, for example, may be particularly useful in one embodiment when packets are received/sent. By distributing the packets or other data items across multiple sub-queues/sub-data structures in a deterministic pattern (e.g., round robin) and then retrieving them from the multiple sub-queues/sub-data structures in the same deterministic pattern, the integrity of the queue is maintained as the order of the packets or data items is maintained. Applicants believe that all pending claims, at least after entering of this Amendment, include explicit limitations to be patentably distinct from a distributed system across a network.

Additionally, Applicants respectfully request the Office contact Applicants should the Office read the claims differently, as Applicants are trying to claim a novel and non-obvious queue in a single apparatus, not a distributed networked system of computers and switching devices. Applicants understand that we use words describe the invention, which may not always be as accurate as one desires, and Applicants would be willing to amend the claims to satisfy the Office that a broad and reasonable reading of the claims does not include such a distributed networked system, and as it does neither the Office nor Applicants any good as it does not further prosecution to proceed down paths not directed at the actual invention.

Applicants believe all pending claims recite limitations to avoid any previous confusion, and that are patentably distinct from the prior art of record. Independent claims 1 and 13 are amended herein to recite that the respective apparatus is line card of a router with limitations implementing the queue, with support provided at least by page 10, lines 13-25, which includes a statement that "[i]n one embodiment, system 330 is part of a line card, switching or other component of a packet switching system, router, or communications device." Independent claim 23 is method claim describing limitations for adding and removing information from "a queue". Independent claim 33 is an apparatus claim reciting "a queue" reciting limitations of the queue. Independent claim 48 is an apparatus claim reciting "a queue" reciting limitations of the queue. Support is provided at least by the same discussion of FIG. 3 on page 10.

Claims 4-12, 16-22, and 44-47 stand as canceled.

In regards to the rejections of the claims based on prior art, Applicants respectfully request the § 102 rejections of claims 1-3, 13-15, 29-32, 35 and 37 be withdrawn as Gutierrez et al. describes a networked system with the Office equating elements of the claims to different computers, as the amended claims are directed to a line card of a router, and hence, the pending claims are patentably distinct from the outstanding § 102 rejections. Moreover, the discussion hereinafter regarding the other pending claims is believed to be applicable, as it is directed to the rejection of independent claim 23 ("a method" of implementing a queue performed by a single

appliance) and independent claims 33 and 48 (an apparatus claim of "a queue" implemented by a single appliance).

Claims 23, 33, 34, 36 and 38-43 and 48-51 stand rejected under § 103(a) as being obvious over Gutierrez et al., US Patent 6,570,850 in view of Parruck et al, US Patent 7,002,916. Applicants note that 35 USC § 103(a) requires "the prior art reference (or references when combined) must teach or suggest *all the claim limitations*." MPEP § 706.02(j) (*citing In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991))(emphasis added).

Paragraph 20 of the Office action presents a rejection of independent claim 23. At a high-level, the Office relies on Gutierrez et al. teachings using multiple appliances (source computer, network node, destination computer) generating by a source computer, storing, switching and forwarding by a network node, and receive a particular packet stream of a same virtual circuit by a destination computer. Turning to the claim, the Office apparently equates the recited limitations of queue and its sub-queues to be buffer store 63 with a plurality B of buffers BUF(0) through BUF(B-1). Gutierrez et al. teaches that there is each of BUF(0) through BUF(B-1) correspond to a different virtual circuit, and cells are received and based on which virtual circuit they are associated, they are stored in the respective buffer BUF(0) through BUF(B-1). Therefore, which buffer BUF(0) through BUF(B-1) in which a cell is stored is dependent upon the cell itself and the stream of cells. In contrast, independent claim 23 recites the limitation of "advancing the currently selected one of the plurality of sub-queues to which to add information to a next one of the plurality of the sub-queues to which to add information in a predetermined order among the plurality of sub-queues *independent of the stream of information*." Again, Gutierrez et al. teaches that the decision on which BUF(0) through BUF(B-1) is selected is based on the stream of information (i.e., to what virtual circuit it belongs) For at least this reason, the Office action fails to present a *prima facie* rejection of independent claim 23.

Furthermore, the Office's reliance on Gutierrez et al.'s teaching that it will maintain the order of cells sent over a same virtual circuit is flawed in the context of all of the limitations of

the claim. Of course, the order will be maintained as they belong to the same virtual circuit and are placed in the same queue (one of BUF(0) through BUF(B-1)). (Note, Applicants admit that each of the linked-list BUF(0) through BUF(B-1) as taught by Guitierrez et al. are queues, so the Office does not need to jump through hoops to bring in another reference in this situation). However, Guitierrez et al. neither teaches or suggests maintaining a same order of cells placed into different BUF(0) through BUF(B-1) buffers, nor provides a mechanism to advance the currently selected sub-queues independent of the stream of packets. Just because an ordering of cells within a virtual circuit are maintained, does not mean that the order of cells *added to a queue by distributed these cells among a plurality of sub-queues* is maintained when they are retrieved. For at least these reasons, Applicants respectfully submit that independent claim 23 and dependent claims 39 and 40 are allowable.

The Office action relies upon these teachings in the rejections of all pending claims, so Applicants submit that the pending claims are also allowable for at least these same reasons.

Finally, the Office action states on page 3 that "Parruck discloses that packet shaping can be based on any number of criteria [i.e. col., 17, lines 30-38]. The criteria for packet shaping can be the requirement that data packets are distributed and received in the same order. Therefore, the data shaping in Parruck can be based on the criteria that data packets are transmitted and received in a round robin order." Applicants do not understand the Office's leap in logic, as such is neither taught nor suggested by Parruk et al. Let's be clear, col. 17, lines 30-38 states:

"Grouped traffic shaping is further refined by utilizing a variety of factors for prioritizing rather than a single criteria. Priority scheduling, based upon any number of criteria, may be accomplished at a variety of levels in accordance with the present invention. Prioritizing in this parallel fashion decreases the computational difficulties that arise in serial prioritizing."

Applicants do not believe that the Office's statement is inherent in Parruk et al., and Applicants make a demand for evidence as provided for by the MPEP for such a teaching. Moreover, packet shaping by definition is directed to the reordering of packet traffic based on one or more criteria,

which is consistent with the teachings of Parruck et al. Additionally, the Office relies on Parruck et al. for teaching additional limitations, with the motivation for the combination of these references for better traffic shaping. Applicants respectfully further suggest that such combination is improper and teaches away from the recited limitations in each pending claim. Shaping is concerned with changing the order of packets being output from a device, such as based on the different classifications of the packets. Therefore, Parruck et al. neither teaches nor suggests placing the information in storage and removing from storage in the same order; and in fact, teaches away from such (i.e., it is directed to shaping traffic). Additionally, requiring that the packets be removed from storage in the same order that they were placed in storage defeats the entire purpose of packet shaping and would render Parruck et al. unsatisfactory for its intended purpose of packet shaping and is therefore not a proper combination per MPEP § 2143.01(V). Moreover and for at least these same reasons, Applicants submit that Gutierrez et al. neither teaches nor suggests the recited limitations of independent claims 1, 13, 23, 33, and 48, and their dependent claims.

In view of the above remarks and for at least the reasons presented herein, all pending claims are believed to be allowable over the prior art of record, the application is considered in good and proper form for allowance, and the Office is respectfully requested to withdraw all claim objections/rejections, allow all claims, and issue a timely Notice of allowance in this case. If, in the opinion of the Office, a telephone conference would expedite the prosecution of the subject application, the Office is invited to call the undersigned attorney.

In re MICHAELI ET AL., Application No. 09/845,606
Amendment G

Applicants believes a one-month extension of time is required, and hereby petition for such extension of time required with the requisite fee provided herewith. Additionally, the Commissioner is hereby generally authorized under 37 C.F.R. § 1.136(a)(3) to treat this communication or any future communication in this or any related application filed pursuant to 37 C.F.R. § 1.53 requiring an extension of time as incorporating a request therefore, and the Commissioner is hereby specifically authorized to charge Deposit Account No. 501430 for any fee that may be due in connection with such a request for an extension of time. Moreover, the Commissioner is hereby authorized to charge payment of any fee due any under 37 C.F.R. §§ 1.16 and § 1.17 associated with this communication or any future communication in this or any related application filed pursuant to 37 C.F.R. § 1.53 or credit any overpayment to Deposit Account No. 501430.

Respectfully submitted,
The Law Office of Kirk D. Williams

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By



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